

My Favorite Things

Reporting Category Probability and Statistics

Topics Gathering, organizing, and displaying data in object graphs, picture graphs, and tables
Answering questions related to data

Materials

- Letter to parents explaining the need for each student to bring in a favorite small item for the show-and-tell activity
- Labels for categories: Toys, Games, Food, Books, Other Items
- Small squares of paper
- Butcher paper with a five-column graph drawn on it and with the columns labeled at the bottom: Toys, Games, Food, Books, Other Items
- Floor graph
- Labeled pictures of various types of shoes worn by students (e.g., lace-up, slip-on, Velcro, zipper, buckle-up)
- Clothespins

Vocabulary

graph, object graph, picture graph, table, more, fewer, same, tally mark, sort, compare, count, data

Student/Teacher Actions (what students and teachers should be doing to facilitate learning)

1. Have each student bring in and share with the class one of their favorite things. After the sharing, discuss how the items could be sorted. Suggest some categories like Toys, Games, Food, Books, and Other Items. As the students hold their favorite things, have them sort *themselves* into the appropriate categories by standing in lines (columns). Place labels for each category at the front of each line. Have students count the number of students in each line. Ask them which line is the longest (has the most students in it), and which line is the shortest (has the fewest students in it). Explain that we can use *graphs* to show information about different things. Tell students that they have constructed a “human graph.” Have them return to their seats.
2. Distribute small squares of paper, and have each student draw a picture of his/her favorite thing on it. Explain to students that they will now construct a “pictorial graph” of the same information they organized in the human graph. Display the graph you have prepared on the butcher paper. Have students bring up their squares, and guide them in placing the squares in the correct column on the graph. Once all students have placed their squares on the graph, ask the same questions that were used for the human graph: which line is the

longest (has the most squares in it), and which is the shortest (has the fewest squares in it). Emphasize that this pictorial graph displays the same information as the human graph, but it *represents* their favorite things with pictures instead of the actual objects. Talk about other comparisons that can be made, for example, which category has the same number of items as another category.

3. Another variation of the object graph uses the types of shoes students are wearing. Ask the students, "What type of shoes do you have on today?" Place the labeled shoe pictures on a floor graph. Have each student place one of his/her shoes on the floor graph in the appropriate column. Count, compare, and discuss results. Transfer the information to a paper pictorial graph to hang on the classroom wall.
4. On a daily basis, graph who is buying lunch and who brought lunch. Also graph other information, such as shirt color or shoe color. Use pictures of students to do daily graphing, along with clothespins with students' names.

Assessment

- **Questions**
 - Provide a set of objects that group into different categories. "How can you sort this group of objects to show how many objects are in different categories?"
 - "What kinds of things could you graph?"
- **Journal/Writing Prompts**
 - "We recorded the weather for 10 days. Most of the days were sunny. We made a graph to show the sunny days, the cloudy days, and the days it rained. Draw a picture of this graph."
 - Show the students a completed graph (object, picture, or table). "Write or draw a picture describing the data displayed in the graph. Use words such as *more*, *fewer*, *same*."
- **Other**
 - Give each student a collection of buttons of different colors to sort and classify by color. Have them create a graph with a title and labels for the color categories. Have them record the information for each category in the correct column by drawing the correct number of buttons in that category and coloring them the correct color.
 - Give each student a clipboard with a piece of paper and a pencil. At the top of the paper, have each student copy a question to ask the other students (e.g., "What is your favorite type of pie?"). Below the question, have students make a graph (picture or table) for collecting data about answers to the question (e.g., columns for apple, chocolate, pumpkin, banana, other). Have students collect data, using tally marks in the graph. Then, direct students to take a new piece of paper and use crayons to copy on it the question, draw the graph, add the numbers representing the tally marks, and add pictures or words representing the responses. When students are finished, have them report their findings to the class.

Extensions and Connections (for all students)

- Have students conduct individual parent interviews regarding the parent's preferences for such things as television shows, foods, cars, pets, and/or recreational activities. Once students have collected these data at home, have them work in small groups to graph and answer questions about the data to determine the most popular item in each category. All groups could put their data together to create a large graph of the "favorites" of all the parents of the class. This may also be done with least favorite.
- Divide students into groups, and ask each group to observe and graph such things as hair colors, types of shoes, colors of shirts, numbers of brothers and sisters, etc. This could also be done in cooperation with another class in the school, with the classes placing themselves into human graphs by class and transferring the information to a pictorial or object graph for comparison purposes.